

MML Provides Lower-Cost Option for Charpy Verification

NIST has produced two new SRMs for the self-verification of Charpy V- Notch impact machines in accordance with the ASTM Standard E23 or International Organization for Standardization ISO 148-1. SRMs 2093 and 2097 each consist of a set of five specimens used to perform one verification test at low and high energy levels respectively (approximately 20 J and 100 J levels). These SRMs are being produced to offer users a lower cost option for machine verification when the NIST post-test specimen evaluation and machine certification documentation are not needed. Using SRMs 2093 and 2097, the user performs a self-verification of their machine, with no post-test assistance from NIST.

The material used to produce SRMs 2093 and 2097 is 4340 alloy steel, the same material in the full-service Charpy verification SRMs 2092 and 2096. The bars are finished to length, stamped, heat treated and machined in SRM specimen lots of approximately 1200. Each specimen has a lot number and an identification number (three or four digits) stamped on one end. The SRM certification procedure is also the same as those used for SRMs 2092 and 2096. Specimens are taken from each SRM lot and tested by the NIST Materials Reliability Division on the Charpy V-Notch reference machines. These data are statistically evaluated to assess the homogeneity of the lot and establish the certified value. The certified values for energy absorbed for SRM 2093 and 2097 are provided to the user on the certificate when the SRMs are purchased.

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